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COOP'S TECHNOLOGY DIGEST

-A Timely Report On The World Of Communications-

Published as a confidential industry newsletter ten times per year by electronics and technology author *Robert B. Cooper*. Reports source checked for accuracy prior to publication; readers are cautioned to conduct their own verification of data prior to formulating business judgements based upon reports here. Data of unverified authenticity may be so-labeled as a guide to reader caution. The publisher draws upon 35 years of leading edge electronic industry media experience but can be mislead by those with clever agendas. *Entire contents Copyright 1995* by Robert B. Cooper; when 'lifting' material please be courteous enough to credit source (*"As reported in Coop's Technology Digest for ...."*). CTD accepts no advertising nor source payment for publication of material here. Making "extra copies" for staff use is prohibited without our written permission. Corporate libraries copying this publication for distribution are in violation of our copyright; please query for reasonable reproduction rights. Subscription rates and contact numbers at bottom of this page.

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COOP'S TECHNOLOGY DIGEST

June 30, 1995 ◆ VOLUME 95-6-19

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TVNZ's PACIFIC SERVICE

"*The Broadcasting Act requires NZ On Air to maintain and, where it considers appropriate, extend the coverage of television and radio to New Zealand communities that would not otherwise receive a commercially viable signal. In the past, NZ On Air funding for television transmission has been confined to maintaining the existing coverage of Television One and Channel 2 at the levels achieved by BCNZ in April 1988 (99.9% of the population for Television One and 99.7% of the population for Channel 2). Over the last five years, NZ On Air has provided subsidies to TVNZ totalling $14 million to enable TVNZ to maintain coverage at these levels.*"

This extract from the 1993-1994 NZ On Air Annual Report establishes the foundation for an issue that remains contentious in television broadcasting circles. Who should pay, and how much should be paid, to ensure that "basic television service" is delivered to those portions of New Zealand where normal commercial television practices would not serve?

The cost of reaching remotely located resiudents of New Zealand can be massively high on a per viewer basis. Of the 844 TV transmitter (translator) devices established by BCNZ prior to the formation of NZ On Air, TVNZ claims that as many as 60% are "not commercial"; under a strictly user pays regime, none of these relay stations would have been built. That they were funded and built under an earlier regime (Broadcast New Zealand), and that they are required by statute to be maintained by NZ On Air, is an issue the public funding agency has wrestled with since its inception.

During the early years of NZ On Air, sizeable annual sums were paid to TVNZ which had agreed to maintain these relays "under contract"; $3,330,000 in 1992 for example. As early as 1990, NZ On Air was questioning TVNZ for more precise accounting as to the actual costs associated with this maintenance programme. As late as 1994, the accounting made available was considered inconclusive by NZ On Air. In fact, after several years of frustration during which NZ On Air asked for ever more precise accounting from TVNZ and the figures were not forthcoming, NZ On Air in 1993 unilaterally reduced the annual TVNZ payment to $638,000. TVNZ has not to date accepted this reduced payment schedule as "*an accurate reflection of our real costs*" and as the last NZ On Air Annual Statement reported:

"*NZ On Air believes the required level of subsidy is considerably less than that applied for by TVNZ. Discussions will continue in the coming year in order to arrive at an appropriate level. In* *the interim, TVNZ have continued to maintain coverage at the levels achieved by BCNZ in April 1988."*

During 1993 and 1994, TVNZ competitor TV3 successfully argued in favour of its own transmission extension programme with fuinding by NZ On Air. Under the approved programme (see CTD: 9405, p.28) TV3 was to receive $4.1 million from NZ On Air to build approximately 60 new TV relay stations with the consideration that it would itself put $1 million into the infrastructure. This programme was later extended (CTD: 9409, p. 35) to include additional transmitter sites originally rejected in the 61 transmitter expansion programme. As reported in CTD (9407, p.24) public outcry against being left out of the TV3 expansion played a major part in the second level of TV3 expansion.

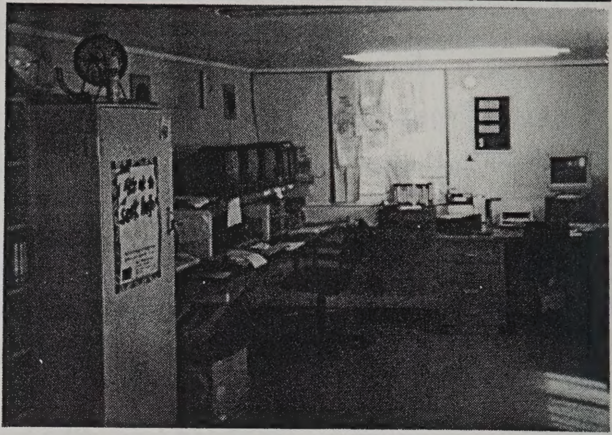
TVNZ has maintained since 1989 that many (read most) of its actual TV relay (translator) sites cost more to build and maintain than it receives back in gross receipts as a result of the additional home coverage. Advertising time is of course sold based upon the number of homes reached by a service for a particular programme. And the revenue stream to TVNZ is the same for 500 homes in Papatoetoe as it might be for ten remote communities of 50 homes each. Yet the 500 homes in Papatoetoe are reached under the signal umbrella of a wide area transmitter serving all of the Auckland region while the ten remote communities would each require a dedicated transmitter.

Individual relay transmitters may not be frightfully expensive to acquire but their installation often exceeds the cost of the equipment by a factor of ten to 1. A ten watt relay on a hilltop to serve a medium sized community such as Warkworth (north of Auckland) was recently priced at $45,000 with an annual maintenace projection of $2,500. Hilltop sites tend to be expensive to create because of the infrastructure; power lines must be run into the sites (or in rare cases solar energy is tapped and stored) and road works built to allow access to the sites by at least four-wheel drive vehicles. Before any of this can occur the sites must be engineered (planned), permission obtained (often an exoense) to either use the sites or to cross other privately owned land with power lines and roadworks to reach the sites.

NZ On Air has repeatedly asked TVNZ for a formula; "*How many homes constitute a commercially viable relay service installation?*" TVNZ has been unable to supply such a formula primarily because no two relay sites have identical costs. A 100 metre road built to one site may, because of the terrain, cost ten times as much to build as a lazy track cut across paddocks to reach another site 1 kilometre from the nearest roadway. And power line extensions to reach these sites are even less predictable in cost.

If TVNZ has been unable to supply NZ On Air with either a formula or an actual list of the unprofitable (i.e., needs to be subsidized) sites, this did not prevent TV3 and NZ On Air from reaching at least a general consensus on where they would draw the line. As reported in CTD 9405; p.28), under the agreement for expand TV3 relay sites, any community of fewer than 750 people would automatically be too small to be considered. At least at TV3, they were willing to estimate the smallest community which might ultimately prove to be economically viable. TVNZ reportedly did not like that number and some planners there apparently believe the proper number to be in the range of 2,500 to 3,000 people served per relay site, below which the sites are "not commercially viable" and which, therefore, should have the financial assistance of NZ On Air for initial installation and maintenance.

Equally perplexing to TV3 in their own two year effort to gain NZ On Air funding for their limited expansion: Under the terms of the maintenance agreement by which TVNZ continues to "*maintain coverage at the levels achieved by the BCNZ in April 1988,*" the funds for this are not traceable once they disdappear into the TVNZ coffers. TVNZ claims they engage their own wholly owned subsidiary BCL to do this site maintenance. BCL gross revenues and net profits as a subsidiary operation are never reported separately. It concerns many in the industry that public funds collected by NZ On Air going to TVNZ subsidiary BCL may be contributing to the "bottom line" (net profits) of BCL in a manner which the original legislation creating NZ On Air or perpetuating the TVNZ empire never intended.


Chatham Islands television studio & control

An Identifiable Area Of Cost-Per-Subscriber

If TVNZ cannot or will not identify the actual cost to serve the 103 people reached by a two-channel TVNZ relay at Jacobs Ridge (west coast, South Island) or the 400 people from Waimamku (west coast, North Island) , there is one very tiny service area at which NZ On Air is able to pin-point transmission service costs: The Chathams.

With a population that hovers betwen 600 and 650 New Zealanders, the television system for the Chathams can be analysed for cost because of the unique manner in which it is funded. While sites for TVNZ relay of TV1 and Channel 2 are lost in a great 844 transmitter melting pot, under the legislation creating NZ On Air the residents of the Chathams are specifically provided for by annual funding. This funding has been mostly static at $228,000 per annum in recent years (1).

The precise way these funds ($350.77 per Chatham resident per year at 650 population) are spent is, however, somewhat obscure. Basically, TVNZ has a "contract" to supply Chatham Islands Television (CIT) with programming and most of the purchasing decisions are made by TVNZ. This is administered by an office at TVNZ known as Pacific Service (operations).

CIT operates from approximately 4:30PM to around 11PM seven days per week. Most of the programming is prepared by TVNZ in Auckland on S-VHS tape and sent by air to the Chathams by Pacific Service Auckland. CIT on average has a backlog (inventory) of four weeks of programmes on tape at any point in time and the actual scheduling of programmes is done by station manager Tom Brown with some advice from personnal at TVNZ Pacific Operations. The studio facility is modern, tidy, and was designed and installed by TVNZ through BCL. Included in the station's equipment inventory is a

S-VHS playback at Chatham Islands Television

1/ Chatham Islands residents, according to station manager Tom Brown, have a "70% of homes" record for paying the annual NZ On Air fee; 90% of all homes is the average elsewhere in New Zealand. Brown worries the annual fees could be reduced if the "spirit of support' does not improve in the Chathams. At the same time, 12.9% of all Chatham homes have satellite dishes, certainly far greater than elsewhere in New Zealand.

7 metre satellite (receive only) dish which is locked rather permanently on Intelsat 180. It is here, on the TVNZ transponder, that CIT picks up daily satellite feeds of the TVNZ TV1 News programme and occasional feeds via satellite of sporting and other events.

S-VHS taped programmes are prepared by Pacific Operations in the following format:

1) All commercial messages are removed

2) One programme is placed on each cassette tape

3)TVNZ charges CIT $41 per hour for the tapes and once used the tapes are returned to Pacific Operations.

Thus in a typical 6 hour and 30 minute broadcast day, of which 6 hours is on tape and 30 minutes is via satellite, CIT has the following costs:

1) Tape: 6 times $41 = $246 per day

2) Satellite: 30 minutes at $150 per 30 minutes

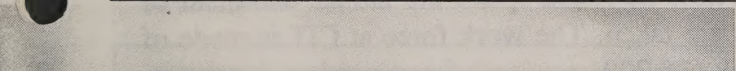
CIT has a daily programming budget of around $396 or $0.61 per resident per day. In 365 days that works out to $144,540 per year; 63.4% of the total station budget and all paid directly to TVNZ.

How Does TVNZ Benefit?

Pacific Operations is not limited to providing television programming to CIT. The Pacific Service routinely provides programming to:

1) Broadcasting Corporation of Niue (Hima Douglas, manager)
2) Fiji One Television (Nick Samitz, operations)
3) Cook Islands Broadcasting (Robert Nicholas, manager)
4) Nauru Television (Clinton Benjamin, manager)
5) Television Blong, Vanuatu (Claude Castely, manager)
6) Chatham Islands Television (Tom Brown, manager)
7) Television Samoa (Tupa'i Kuka, manager)
8) TVNZ is also an applicant to build a new (national) television service for the Solomon Islands (CTD: 9505, p21).

Thus by providing "clean programming " (i.e., with all commercials, TVNZ promotion removed) to CIT, the tapes are now ready for use by any (or all) of these "affiliates." However, other than the use of the various programmes by CIT, their additional use (if any) by other Pacific "affiliates" is not documented and specific information is not available from TVNZ.



7 metre dish for feeds through TVNZ at CIT

Logic suggests, however, that the programming is being distributed beyond the CIT system. Removing of commercials and TVNZ channel identifications is a significant clue. If the programming was only to be re-used by CIT, a part of New Zealand, there would be little call for removal of both advertising and network identification. Certainly the time and effort required to do so would exceed the modest benefits for CIT. On the other hand, if the edited tapes were to be re-used outside of New Zealand (such as in The Cooks, or at airport kiosks or on board Air New Zealand flights), certainly the S-VHS "clean tapes" would make the programming more useable. If this is accurate, why NZ On Air funds should be paying for the "cleaning of programmes" first shipped to the Chathams and subsequently redistributed (for fees paid to TVNZ) is of some concern. Should TVNZ be "making money" out of this programming after the mechanical costs relating to preparing the programmes for redistribution have been paid by the Chathams?

A TVNZ Pacific source advised CTD, "*Copyright clearance is a major logistics problem. When we send programmes to the Chathams, we are still distributing inside of New Zealand and no separate copyright or programme rights fees apply. However, when the programming is distributed onward to the* (balance of the) *Pacific Service, each country attracts its own* (copy) *rights clearance fees.*" In other words, programming that costs the Chathams $41 per hour on S-VHS tape should in theory cost far more for Fiji or Nauru. Whether it actually does is unknown. Of some interest, the Chathams only receive programming from TVNZ; TV3's schedule is not a part of the programme base from which the Chatham's service is created although TV3 programmes can be requested by CIT. "*In that event*"," notes Brown, "*TVNZ has to negotiate for rights from TV3.*" He does not believe there are additional costs to CIT for the TV3 programmes.

Satellite Feeds

TVNZ's Intelsat 180 transponder migrated from a purely analogue format transmission system to a combination of analogue and digital early in 1995. TVNZ added the incoming digital feeds from BBC World Service at that time, partially in response to the launch of its regional television service, and in part to allow TV1 to take the BBC World Service 'overnight' for relay on the TV1 transmission chain. The transponder space actually consists of a pair of 20 MHz nominal bandwidth segments centred on 4.166 GHz and 4.188 GHz. Within either of these two bandwidths TVNZ can load up for as many as 2 compressed digital video service signals, or, a single analogue TV signal. At the present time the BBC services are fed approximately 19 hours per day on average in the 4.166 GHz transponder while the 4.188 GHz transponder continues to be utilised for analogue transmission. It is in the analogue portion that the TV1 Nightly News and various sporting events are relayed to affiliates such as CIT.

TVNZ charges CIT $300 per hour ($150 per half hour) for feeding nightly News. This rate is based upon a shared cost; if several of the affiliates elect to take the Nightly News feed, the cost is reduced on a shared basis. On the other hand, if only a single affiliate elects to take a particular programme feed, rates in the region of $1,500 per hour are charged.

Here CIT's Tom Brown has some latitude as to how he might spend the annual allotment of $113,460 remaining after TVNZ programming fees are taken. The work force at CIT is made of of volunteers; Brown himself is paid $100 per week ($5,200 per year) for managing the station each day including picking up and dispatching tapes from the airport. A portion of the $108,260 remaining after Brown's own token salary is spent each year with TVNZ for "optional sporting events"; sometimes at the rather steep cost of $1,500 per hour. NTL-2212 model digital receivers began delivery to affiliates in April and all were in place for the Rugby World Cup. The Cooks Islands launched their digital service late in April taking a portion of the BBC World Service feed on a daily basis (2). A Cook Islands newspaper reported CITV paid "*over $10,000 for their*

2/ A Cook Island newspaper report headlined "**CITV Goes Digital**" and went on to frighten (incorrectly) local satellite dish owners with the warning "*Dish owners who don't have digital receivers will be left out in the cold.*" The article mixed up the limited BBC feeds with the other several dozen analogue services coming to the incorrect conclusoion that "*within a month's time private satellite dishes will become worthless because of digital.*"

digital receiver" but Chatham's Tom Brown told CTD, "*We were required to post a bond of $1,400 to cover the possible damage or loss of the NTL model 2212 receiver.*" On the BBC World Service feed available to both the Cook's CITV and the Chatham's CIT neither seems certain how much, if any, of the BBC service they are supposed to be rebroadcasting locally. CIT's Brown now comes to the studio two hours before the normal sign-on of service (for taped programmes) and connects the output of his digital receiver to the 1-watt TV transmitter at his studio. "*There are four video programme channels on the receiver; one carries BBC World Service, we got the feed of the World Cup Rugby on another, and there is Chinese and other programing for at least a few hours each day on the 3rd and 4th programme channels.*" Both Brown and CITV's Robert Nicholas agree, "*Digital is the best thing that has ever happened to our operations. The pictures are so remarkably clean that we regret when we are forced to switch back to the TVNZ* (Nightly News) *analogue feeds again!*"

TVNZ lacks the ability to transmit outward from their Auckland facility in digital format at this time; plans to become a digital exporter of programmes are not yet set and no date is being announced. And no wonder: The going cost of a simple single programme channel digital driver for their uplink transmitter remains in the US$775,000 region.

TYPICAL WEEK'S SCHEDULE: CIT

Wednesday, April 5

4.41pm: Sesame Street
5.40pm: Pink Panther
6.02pm: Conan the Adventurer
6.25pm: Wheel of Fortune
6.48pm: 60 Minutes
7.34pm: Barrymore
8.25pm: Casualty
9.20pm: TVNZ News & Weather
9.43pm: Crossroads
10.29pm: Phoenix

Thursday, April 6

5.05pm: Wonderworld (new childrens)
5.26pm: Ox Tales
5.49pm: Bernstein Bears
6.13pm: Bobby's World
6.34pm: Wheel of Fortune
6.57pm: A Different World
7.21pm: Time Trax
8.05pm: Heartland
8.51pm: Seinfeld
9.20pm: TVNZ News & Weather
9.43pm: The Commish (new drama)

Friday, April 7

4.43pm: Incredible Dennis the Menace
5.06pm: Video Power
5.28pm: Pinocchio
5.52pm: Step by Step
6.15pm: Wheel of Fortune
6.38pm: Seaquest
7.22pm: Palmers Garden Show
8.08pm: Murder She Wrote
8.52pm: Friends
9.20pm: TVNZ News & Weather
9.43pm: Seaforth
10.30pm: Nga Puna

Saturday, April 8

4.52pm: What on Earth is Carmen San Diego
5.12pm: Tic Tac Tunes
5.33pm: Coca Cola Chart Show
6.19pm: Hanging with Mr Cooper
6.43pm: TVNZ News & Weather
7.13pm: Lois and Clark
7.58pm: Clash of the Codes
8.21pm: Innerspace (movie)
10.17pm: Shakey Ground
10.40pm: Whose Line is it Anyway
11.05pm: Conjugical rites

Sunday, April 9

4.47pm: Chatterbox
5.07pm: Bots Master
5.30pm: Taz Mania
5.50pm: Stand By Your Man
6.13pm: Praise Be
6.43pm: TVNZ News & Weather
7.13pm: Waste Not
7.42pm: Adventures of Brisco County Jr
8.27pm: Pie in the Sky
9.17pm: ER (pilot movie)
11.09pm: Powers-to Be

Monday, April 10

4.52pm: Sesame Street
5.51pm: Super Dave
6.13pm: Just Kidding
6.36pm: Wheel of Fortune
6.59pm: Full House
7.22pm: The Nanny
7.46pm: Baywatch
8.30pm: Blue Heelers
9.20pm: TVNZ News & Weather
9.43pm: Renegade
10.25pm: X Files

Tuesday, April 11

4.48pm: Ghostwriter
5.14pm: Tales from the Cryptkeeper
5.38pm: Double Dragon
5.58pm: Parker Lewis Can't Lose
6.21pm: Wheel of Fortune
6.44pm: Fresh Prince of Bel Air
7.09pm: Waiting for God
7.38pm: Lovejoy
8.28pm: Grace Under Fire
8.51pm: Fair Go
9.20pm: TVNZ News & Weather
9.43pm: Extraordinary
10.29pm: Tour of Duty

FACTS
FIGURES
FINANCE:

SPACE Pacific Limited announces the 1996 South Pacific Region Satellite & Cable Show at the University of Auckland Tamaki Campus January 23 - 27. Centre-piece of the five day show will be state-of-the-industry forums conducted by world quality experts in satellite hardware, software, and marketing strategies. Invitations to SPACE Pacific members in the mails 1 August; registration open to all others 1 September.

The Question Of:

'BABY-BLUE' Movies Via Satellite

Inevitable?

A brief report appearing in CTD (9505; p. 14) for May related:

"*An Australian pornographic media firm has approached PanAmSat concerning leasing of an Australia / New Zealand Ku band transponder for distribution of encrypted porno-flicks 4 hours per day along with a less controversial shopping channel for 20 hours per day.*"

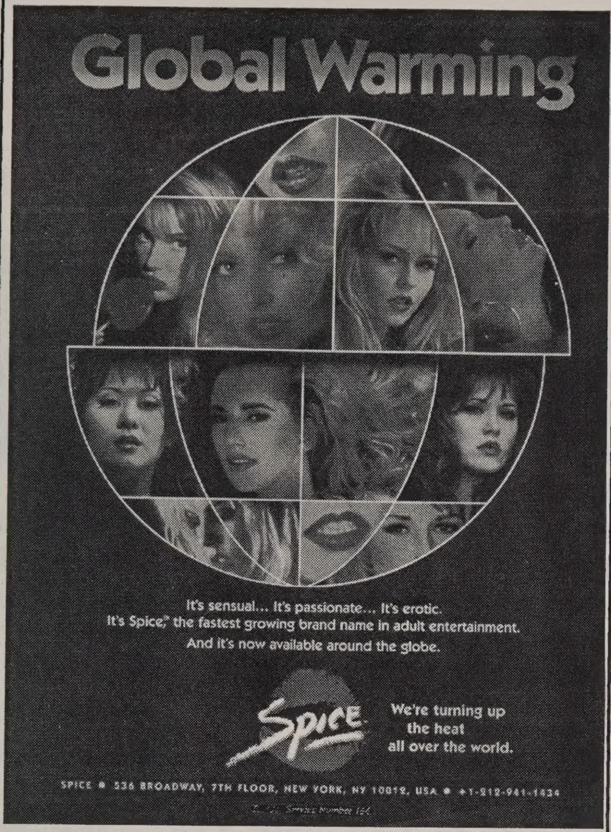
Reaction has been divided along moral and legal lines. A number of industry people expressed to us that it "*will never happen here given the laws prohibiting such film distribution.*" Others were not so sure existing laws prohibit delivery of an encrypted service to homes which specifically request such a service and make payment for same.

New Zealand laws governing movie ratings are under review. So too are laws and regulations that might be applied to the appearance of materials on the Internet system which many describe as offensive. That an upgrading of New Zealand's "pay TV code" as administered by the Broadcasting Standards Authority (BSA) would be able to deal effectively with private transactions "between consenting adults" is uncertain when the delivery mechanism is satellite.

Under the existiung BSA code, free to air (not encrypted) and pay TV (as operated here by Sky Network) must respect the same code rules. The Authority is suggesting that "two different sets of rules should apply given the optional availability of pay-TV services." The heart of the concern is the ease with which 'children' can gain access to the 'adult material'. Sky Network maintains that by scrambling their service, it is impossible for supervised children to tune in movies with explicit sexual content. Many parents are concerned that by subscribing to Sky they are taking on a new responsibility to 'police' their children's viewing habits to ensure that through the family decoder children are not exposed to adult material. One possible solution to this, as offered in Europe and North America, is a decoder that includes a lock out circuit. In this way parents can prevent unsupervised viewing of Sky late night movies, for example, by simply 'locking' the decoder out of the Sky Movie Channel when they are not home to supervise. To equip all existing decoders with such a parental lock-out system would mean a massive retrotfitting of the more than 200,000 decoders now in use, even if Sky only responded to those subscribers requesting the modification of their decoder. It is unlikely, Sky feels, that decoders not in homes with children of a vulnerable age would in fact require the retrofit.

Under the 1994 Copyright Revision Act (see CTD, 9503; p.2) transmissions that originate outside of New Zealand are exempted from the limitations of the new law. An adult channel originating in Thailand, for exsample, but receiveable within New Zealand would not run afoul of our Copyright Law. Existing movie classifications relate only to movies that are distributed within New Zealand or are shown on New Zealand television. That the Broadcasting Standards Authority code could apply to such a service as the code is now constituted is believed to be very unlikely.

Australian rules are hardly less restrictive except in the area of importing pay television programming to Australian viewers. Under the Australian Broadcasting Authority (ABA) rules, only Australian based pay television services may be sold within the country until at least July 1,



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SPICE advertisement in satellite trade journal

1997. After that date, based upon the existing regulations, imported programming may be sold. In the area of 'adult' entertainment, the regulations would seem to prohibit the showing of any material within those hours when childrern might be viewing when it would be unsuitable for non-adult audiences. How, then, could a pay television service, encypted or not, originating from either inside or outside of Australia, be sold to Australian viewers without running afoul of the various regulations?

At least one Australian based firm believes it has those details worked out. The general concept is as follows:

1) To gain access to the Adult pay television service, individuals would be required to join a "club." They would further be required to:

2) Specifically order the pay television receiving system package (antenna, LNB, cable, and IRD [integrated receiver-decoder], and,

3) Specifically order the pay television programming on a nightly, weekly or monthly basis.

They believe that in this approach there is no opportunity for accidental tune-in of the films and that their use of satellite delivery is no different in principal from a business that offers adult rated films on videotape by mail order. "*We are simply changing the delivery mechanism, nothing more*" notes a principal in the firm. The firm claims to have an adult customer mailing list of 250,000 individuals in Australia, New Zealand and the Pacific region and believes 20% (50,000) might become members of the special club and order the receiving equipment if offered an opportunity to do so.

CTD has learned that the firm has three corporate owners and one of these is known elsewhere in the world for its operation of adult programming channels under the trade name of "Spice." The proposed name for the Pacific operation is "The Spice Club." A second corporate owner of the firm has extensive existing holdings in the satellite arena and has in place the necessary contracts for delivery of the programming to a wide audience of viewers.

CTD has further learned that the service, planned for distribution on Ku, would be available to much of the eastern / southeastern coastal area of Australia with receive antennas in the 1 metre range. New Zealand viewers would requirer antermnas in the 1.5 to 2 metre range. One engineering pro-forma CTD has studied reflects an analogue transmission using half-transponder format built around a mass produced IRD (receiver). The receivers and LNBs for the service would be stripped down versions of other home style receiving units, but limited to a narrow tuning range as required for reception of the service. Projections of unit cost for the programmer for each receive terminal (complete with antenna, all electronics including decoder) is under US$400 per home system.

The status of the project at CTD press deadline was as follows:
1) Financial planning is essentially complete
2) Transponder status is under a written agreement
3) Receive system status is still in the hands of system planning engineers
4) Software programming selection is underway.

CTD was intrigued to learn that the films to be scheduled on "The Spice Club" would probably not earn for themselves an "X" (or naughtier) rating by most authorities. "Hard R" is the description most often employed. The operators of the channel view The Spice Club as less of a be-all, end-all service for fans of adult movies than as a marketing tool for the on-going sale of movies on tape in the old fashioned way: distributed by mail. They see the satellite distribution as an opportunity to reach new and established clients with more frequent advertising for newly released "X" and naughtier rated movies. "*We intend to promote the satellite service by adding trailers to the 40,000 or so VHS films we sell through every month to mail order customers,*" one executive told CTD. "*We will add these trailers to show how the satellite system works, what it costs, and even how it can be installed by a client themselves with no professional assistance.*" The Spice Club is still formulating marketing plans for each of the target areas within the beam of the selected satellite; plans for offering the service to motels and other commercial clients are not yet firm.

This particular marketing approach has proven very successful for other adult entertainment channels in Europe and North America. By skirting inside the line between "Hard R" and "X" the programmer manages to avoid the outrage usually reserved for Sunday pulpit thumping by indignant religious groups. As an excutive for the consortium pointed out to CTD:

> *"We don't really have to make any money with the satellite service; we only have to cover our costs. Then if we double our present level of sale of the harder X rated material for mail order sales, we have a very nice business success here."*

Will Galaxy come to New Zealand?
Is Telecom's Cable TV plan viable?
Neighbourhood Cable: Will It Work?
Can Adult Services succeed here?
Will Kiwi Cable go to satellite feeds?
Is Hybrid fibe-cable dead?
Is there an ethnic market?
Will AsiaSat 2 change things here?
How do you market cable TV services?
What constitutes an SMATV?
Set-top converters: The status
What will future satellites offer?
Should Sky be on satellite?
Cable: Burial or overhead?

QUESTIONS?

EXPERT ANSWERS

January 23-27 (1996)

SPACE Pacific
South Pacific Region
Satellite & Cable Show

University of Auckland Tamaki Campus

Every Country Needs One:

PRIVATE SATELLITE TELEPORT FOR NEW ZEALAND?

Investment Opportunity:

Nine months ago when Sky Network wanted to install their own satellite dish to take ESPN and CNN from satellite, two of their corporate stockholders told them not to do so. Both TVNZ and Telecom convinced Sky management that it was "*not necessary for Sky to invest in its own satellite dish*" when these two stockholders "*are perfectly capable of supplying Sky with the required satellite signals through their existing dishes.*" To make their argument more convincing, TVNZ and Telecom both agreed to eliminate their on-going charges to Sky for this service.

Why would Telecom and TVNZ be so generous? Very simply, to avoid creating a competitor for the one day potentially lucrative business of providing satellite connections. Worldwide, the Teleport business has turned into big business with privately owned firms installing complex communications routing stations that are in turn interconnected through multiple satellites with other teleports in the world. The teleport has been described as the "*great sky gateway link.*"

A teleport operator installs two or more satellite dishes and offers services of providing direct pathways to and from satellites. A business user might require a 10 MHz bandwidth connecting his downtown Auckland facility with a business firm in Singapore. Clearly beyond the bandwidth capability of Telecom, the quickest, cheapest and easiest routing for this temporary intereconnection is via satellite. If the Auckland business needed only to receive from Singapore, a trailer mounted 3 metre size dish parked in a side yard near the firm's business headquarters would provide a receive-only link with typically 60 minutes set up time. But, suppose the Auckland firm also required transmit capability; two-way linking to Singapore?

A teleport is the answer. Transportable uplinks require antennas larger than a receive only application, and often days rather than hours to set up. And for short term use they are expensive; US$15,000 for a full month, almost as much for a week. A properly positioned teleport, located such that it can microwave itself into direct connection with a host of potential customers, creates the link between local business needs and the satellites.

Bryon G.G. Evans (right) at his
Whangaparaoa home;
it just looks like a teleport.

Anyone with a transmit quality uplink and an antenna that can be pointed at two or more satellites has the capability of being a teleport. In New Zealand, that boils down to Telecom and TVNZ. And the TVNZ system is so often in use for corporate affairs it seldom (if ever) presently has the ability to offer services to others. Which simply means that if you wish to link in and out of New Zealand using satellites, you must deal with Telecom at rates they set.

Several groups are exploring bringing New Zealand into the 21st century world of teleporting. One of these is Pacific Antennas Limited, owned and operated by 8 year satellite system veteran Bryon G.G. Evans at Whangaparaoa. Evans' firm has supplied most of the serious (larger than home size) satellite dish installations in New Zealand for commercial users. His most recent major effort was to equip Television New Zealand with 7 and 9 metre receive-only terminals at the Hamilton, Wellington and Dunedin regional TV sites.

Pacific Antennas Limited

INVESTMENT OPPORTUNITY
INTERNATIONAL TELECOMMUNICATIONS INDUSTRY

AUCKLAND SATELLITE TELEPORT

Pacific Antennas Limited is an established New Zealand provider of satellite antennas and communications equipment. We have identified a business opportunity to establish in Auckand an international satellite communications earth station to provide leased data services as well as video transmission and reception service for full and part-time customers. We believe that over the next 12-18 months we can generate $4-7 million per annum or business for the venture with a net profit available of around 30-40%.

We are seeking a partner for this operation who possibly has a need for such services themselves, or can possibly provide a suitable site in Auckland or has some other level of synergy as well as investment funds in the order of $500,000 available in exchange for a one third share of the business.

We currently have in New Zealand the electronic equipment for the size and an INTELSAT compliant 13 metre Standard B antenna is being prepared for despatch to New Zealand. We expect site works would commence within the next 6 weeks and the carriage of traffic to commence around 12 weeks from now.

PLEASE RESPOND IN THE FIRST INSTANCE TO
BRYON G. G. EVANS, PACIFIC ANTENNAS LIMITED
Phone/Fax 09-424-0841

Evans is offering a one-third interest in a new teleport company to be headquartered at some point in the Auckland region. Another third is being taken by a telecommunications firm that specialises in retrotfitting satellite terminals on a global basis and Evans himself will hold the final third. In a newspaper announcement appearing in *The New Zeland Herald* (June 24; section 4, p.7), Evans describes his vision for a business he forecasts will generate between $4 and $7 million in the first year. He is seeking an investment of $500,000 for the remaining third interest. Response to the advertisement through June 26 was 7 parties including one who is offering a site along the ridge of the Bombay Hills for the teleport.

Pacific Antennas already has in New Zealand a significant portion of the uplink / downlink equipment required, including a 13 metre (Intelsat standard B class) antenna terminal which has brought in from Guam recently. He also has several uplink transmitters of sufficient power to access Intelsat or PanAmSat satellites on C-band (the antenna is not rated for Ku-band use). The funds to be raised will finish equipping the teleport with additional parts required. A site in the Bombay Hills (or another elevated location) would provide the important relinking required to interconnect the port with potential customer locations. In many applications, a transportable terrestrial microwave link makes it possible for a permanent business location to tie-in to the satellite through the port's equipment. For these links to properly work, the port operator needs the ability to "see" (as in microwave interconnect) the business locations with the port proper. For some clients, links-to-the link via Telecom facilities expand the actual coverage

Teleports provide linking to and from the satellite(s) for voice, data, and video applications. Potential client lists are long and include the medical, educational, and business communities in addition to the more obvious entertainmnt industry users. A growing field at the present time is the world of satellite seminars; people coming together to a single location in a city such as Auckland and are satellite interconnected to one or more other sites (worldwide) to participate in sales and training seminars. Like many business opportunities in the emerging world of telecommunications, you don't realise how often something like this will be used until it is available for use. And then you wonder how you got along with out it previously.

TECHNOLOGY BYTES

...BITS and BYTES you may have missed in the rush to make a buck ... ...

June 30, 1995 / ISSUE 95-6-19

SATELLITE TV and RADIO

Optus B3 satellite sources are assuring CTD the new satellite will go into operation "*on or before 15 August*" from its present location at 155.9E (which it presently shares with Aussat A3). The turn-on of Optus B3 will mark major changes in the capabilities of Optus and provide additional bandwidth for the expansion of many pay television services. In the first instance, all present A3 users will be transferred to B3. In the second instanc, the Galaxy pay TV service presently distributed from Optus B1 will move to B3 as a part of its changeover from the inaugural General Instrument Digicipher (digital) encryption system to a replacement system to be provided by NTL and Pace Electronics (CTD: 9505, p's. 6, 12; 9504, p. 2). Galaxy advises that while NTL has designed the encryption system to be used and Pace is supplying the receivers, there is not a similarity between the STARnet (Asiasat 2) and Galaxy encryption routines or software. We are advised, "*Galaxy will utilise a jointly developed PACE/Irdeto decoder which utilises conditional access and ecryption/decryption technology from Irdeto, one of Europe's leading pay TV technology organisations. Irdeto and Pace decoders will also be utilised this year and next in digital DTH rollouts in Canada, Thailand, the Middle East, Africa and Europe*." Thus IRD units designed for STARnet's digiSTAR and utilising News Comm encryption routines will not be employed in the Galaxy service changeover from GI's Digicipher. Galaxy anticipates that the changeout of GI units (from B1) to the Pace/Irdeto system units (B3) will start around the 15th of September and be completed by 1 October. PACE claims an order for UK200 million in DTH receivers for the Galaxy service in Australia.

Palapa's latest series satellite, called C1, has changed its plans for launch vehicle and launch date. The satellite was to have been launched by Ariane rocket in November of this year; will now be launched by a US Atlas Lockheed Martin IIAS from Florida's Cape Kennedy in January (1996). Additionally, the C2M (second version of the new satellite series) satellite, originally planned for a late 1996 launch, will now be placed into orbit in April (1996). C1 is scheduled to go to 113 east and will bring for the first time to New Zealand and Australia a sizeable variety of new programming services never previously available in the southern hemisphere (including 4 Indonesian TV networks, 2 Malaysian networks, 2 Philippines networks, a Thailand network, Australian ATVI + The Gold Network, Asia Businesss News, CNN International, HBO Asia, MTV English, STARnet [1 channel for Indonesia] and ESPN International). The importance of this replacement satellite becomes evident when studying the coverage area predicted; New Zealand and Australia will receive signal levels that will make possible dishes 2 metres and smaller for most of the channels.

Two new Filipino funded and operated C + Ku band satellites plan to be operational by late December 1996. Mabuhay Philippines Satellite Corporation plans a regional satellite with 30 C-band and 12 Ku band transponders while Philippine Agila Satellite Inc plans a satellite dedicated to the Philippines only. Neither firm has a confirmed in-orbit location although Mabuhay claims to have reached agreement with an Indonesia firm to sub-lease their orbital spot. If this is an accurate claim, the satellite would appear at either 134E or 150.5E

Turner Network Television (TNT) launch of the combination TNT and Cartoon Channel service on PanAmSat PAS-2 has again been delayed; this time to 1 July. The service (CTD: 9505, p.13) will be transmitted on transponder 15V with a cxentre frequency of 4152 MHz (IF 998 MHz) using NTSC B-MAC format. Scientific Atlanta model 9708 IRD (integrated receiver descrambler) units for receiving the service went "on sale" at Turner International through the Sydney office in mid-June at US$1,300 each. Cable firms are able to subscribe at US$1 per cable home per month, DTH (direct to home) subscribers will pay US$50 per year. The receivers are being air freighted from S/A in Ontario, Canada to affiliates and subscribers at this time. (Gwin Scott, Turner International; Australia Sydney; tel 61-2-957-5255; Fax 621-2-957-5161). The 9708 receivers are being routinely supplied with the "bypass option" installed, which ensures that if the service switches to free to air because of technical difficulties, the receiver will adjust automatically.

MTV Mandarin, available on PAS-2 in free to air format through 1 June, has been encrypted without advance notice. The service had originally planned to stay FTA through sometime in August, a marketing scheme that would help it be previewed by the largest possible audience before charges for the service began (CTD: 9505, p. 13). The encryption format chosen, NTSC B-MAC, is the same as is being employed by TNT/Cartoons and thus a single receiver could in theory be used for both services in a DTH application. MTV will not confirm their reason for the early encryption but Asian news sources were filled with irate protests concerning the programming content on MTV Mandarin throughout May. In particular, Muslim centres such as Malaysia found little that was positive concerning the programming and outraged members of the government there were calling for a total ban on MTV and its associated companies because of the 'Madonna-like' videos being shown in free to air format. At the same time, the target audience in Taiwan was not responding to the service as MTV had hoped; many cable operatorsd there had delayed making a financial commitment for the service because it was FTA and they saw no reason to rush to send money to MTV for its use. Caught in the middle of all of this was Sydney firm Satellite Management International which had believed it was to be the marketing agent for MTV Mandarin to Australian and Pacific sites. SMI was swamped with telephone calls and faxes following the sudden onslaught of scrambling and at our press time remains uncertain how, or when, their marketing agreement will be finalised. They had planned a rate of US$.30 per month for hotels and other commercial users per lodging room for the service with similar rates for cable TV. For now, MTV remains intently focused on the challenges of resurrecting their lost image in Asia proper and the non-Mandarin countries (such as Australia, New Zealand) are of no immediate interest to the firm. SMI's Michael Fleck believes MTV will launch an English language service into the Pacific proper at some future date (a similar service began in May on a Palapa satellite) but this aspect of the problem will resolve itself shortly after the first of January as the present Palapa satellite is replaced by a newer version that will include Australia and New Zealand within its 'footprint' coverage region. (SMI: Gillian Aitkin at 61-2-977-0188; Fax 61-2-977-0934).

RFO (Radio France Oceana) service on Intelsat 180, free to air in SECAM analogue for many years, abruptly ended June 23 with no advance announcement. Tahitian sources say that a strike of personnel at the station in Papeete is the cause. The satellite feed is primarily used to redistribute Papeete sourced programming to outlying regions of Tahiti and some feeds are also taken in Vanuatu, New Caledonia and Wallis - Fotuna (Islands). RFO had announced plans to switch to a Thomson format of digital one year ago but the original 1 January date slid because of the lack of sufficient hardware to complete the project. More recently, a Paris originated pay TV service (Canal Plus) has been brought to Tahiti and New Caldedonia using MPEG digital format (SatFACTS #8, p.22). This French digital service, in MPEG, is observable on a spectrum analyser at 4091 MHz (IF: 1059) on I180 in left hand circular polarisation (LHC) at levels adequate to be received with high quality on a 3m dish in the Pacific.

Television Corporation of Singapore (TCS) has signed a contract with PanAmSat to provide an Asia-Pacific feed of their programming initially 18 hours per day starting this October. The Mandarin language service is being aimed at Chinese language people throughout the region and is expected to expand to 24 hours per day within 9 months. The TCS Satellite Channel will be uplinked from Singapore using MPEG-2 format and will rely heavily on its own programming produced for local terrestrial viewing. The primary target countries are Taiwan, China, Hong Kong,

OBSERVATIONS OF I180E

Four transponders have quietly become active with compressed digital video on Intelsat 180E over the past few months. This Intelsat has the capability of providing either right hand circular (RHC) or left hand circular (LHC) polarisations; not dis-similar to PanAmSat's ability to provide separate vertical and horizontal linear polarisation. Therefore signals that are not observeable in the normal (for I180) RHC polarisation suddenly become strong when the receive polarisation is readjusted for LHC. On the RHC side, digital compressed video is found centred on 3804 MHz (IF: 1346) and 3842 MHz (IF: 1308). The latter was used until March 31 by CNN International for their analogue feed. Neither signal registers more than 4cB C/NR (carrier to noise ratio) on a 3m dish. Further on RHC, there are SCPC (single programme per carrier) digital video services on 4162 MHz (IF: 988), 4170 MHz (IF: 980), 4178 MHz (IF: 972) and 4186 MHz (IF: 964); all are in the 4 to 5dB C/NR region on a 3 metre dish. These are the digital channels relaying into New Zealand and the South Pacific the BBC World and other services to TVNZ. On the LHC side, there is a full bandwidth MPEG service centred on 4091 MHz (IF: 1059) which is the new RFO Thomson format MPEG service feed. This one is at a C/NR of 7dB on a 3m dish and would be easily received by a modest home installation if equipped with the proper Thomson format MPEG receiver.

Indonesia, Thailand and Malaysia through cable, SMATV and DTH subscriptions. TSC will be the source for the IRD (receiver) units.. Contact: Christina Leong, telephone 65-350-3371 or Fax 65-253-8119.

Orient Satellite Communications Inc, has signed a contract with PanAmSat for a full transponder on the PAS-2 Ku China beam. The service has been programming in NTSC analogue for approximately one month showing largely US films and syndicated programmes with Mandarin subtitling. Orient plans conversion to digital and expansion to as many as 5 separate cable and DTH marketed programming services for television as well as an unspecified number of stand alone audio (radio) service channels. The firm also operates Mandarin language cable TV programme channels in Japan and the United States.

Television New Zealand has sold its minority (29.5%) interest in the recently launched Asia Business News Channel to its major equity partners, Dow Jones and cable giant TCI. TVNZ was responsible for getting the new Singapore based service up and running; a task completed in May. At the peak of TVNZ involvement as many as 30 staffers from both the television operations company and subsidiary engineering firm BCL were in Singapore working on the new channel.

Australia Television Service International (ATVI) may be merged with Radio Australia in a cost cutting move intended to salvage the future operation of the television service. ATVI was created on the premise that after its initial funding for equipment and personnel (A$5.4 million), it would be self-funding. In the current year it will lose as much as A$5 million. ATVI was initially given a 3 year term to establish itself and become self sustaining. The service is carried on Palapa B2P and will be one of the services to move to replacement satellite C1. A$2.5 million was voted as a temporary 'prop' for the service to carry it from July 1, 1995 through the end of June 1996. ATVI will reduce its day to day operating budgets by scaling back news bulletins and seeking a reduction in satellite rates. If this fails to bring operating costs in line with advertising revenues, the service is likely then to become a part of the Radio Australia service for the 1996-1997 year. Their missions are similar although Radio Australia accepts no commercial sponsorship and is accepted as a public service of the Australian government.

Early in June (7-10th) Chinese Television Systems (Taiwan) utilised the services of PanAmSat and PAS-2 to provide live coverage to Taiwan of President Lee Teng-Hui's visit to widely separated segments of the United States..

Bay Satellite TV Ltd. is a newly established firm in Hastings that has entered the home and commercial satellite-direct TV equipment business. The firm will be distributing a wide range of home and commercial receivers, satellite dish antennas as large as 4.5 metres and the usualk compliment of LNBs, actuators,m cables and other pieces required to assemble and install a full range of privately owned satellite dish systems. Bay Satellite TV Ltd: within New Zealand, toll free at 0508-347-448 (Dish 4 U). Another new entry into the home satellite dish distribution business: Barnetts in Wanaka is the first South Island firm to stock satellite antennas (the KTI brand), satellite receivers (Echostar) plus LNBs, actuators and a compliment of accessory items. Barnetts: 03-443-7961.

Minister of Education Lockwood Smith has announced a pilot "interactive satellite pilot programme" to allow rural New Zealand schools to participate in foreign language studies. According to the announcement, 100 schools

PanAmSat PAS-2 UPDATE

The only major change in PAS-2 occupancy is expected to occur on or about the 1st of July with the programme start for TNT / Cartoon network in NTSC B-MAC format on vertical polarisation of 4152 MHz (IF: 998). Turner International had originally said this service could be free to air for 30 days or more; late in June they announced it would be encrypted from the outset. See further report here. ANBC (the Asian business news service from the American NBC network) completed their Hong Kong studio and uplink facility in mid-June and is now transmitting their 24 hour service with a largely Asian and Pacific content. The Hong Kong uplink is actually better (i.e., their signal is stronger) than when it was coming from the USA and for the time being smaller dishes are reporting clearer pictures. However, NBC still plans to provide two separate programme channels in the Philips MPEG format although the equipment for this has been delayed (as with all MPEG equipment). One possibility: NBC may begin their second programme channel by splitting their present transponder (TR13V) in half and using it as an interim two programme system. A final decision on doing this will depend upon the realistic delivery date by Philips of the MPEG gear they require. On the Ku side of PAS-2, a Taiwan based service is now providing 24 hours per day of English language programming sub-titled in Mandarin on the China Beam. Quite without explanation, this signal pointed at central China is reaching the western Australia region around Perth with excellent (1.5m dish size) signals. The service will eventually convert to MPEG however so the free to air 'freak reception' off the boresight of the beam will not last for western Australians.

will participate through a correspondence programme. The Ministry of Education at this time has no details on the project and could not explain how a satellite distribution servive might be made interactive.

Philips has signed deal to build DBS receivers for US Echostar system. Philips will market IRD units under Magnavox brand label in US and Canada with shipments to start in the second quarter of 1996. Echostar is planning launch of twin satellites (first, this November) to provide a lower cost alternative to existing Hughes/Thomson 175 channel all digital DBS system.

FCC rules which regulate domestic US satellites in one manner and intyernational satellites owned and licenced under a separate policy should be merged, according to respondents to US government enquirey. Most of those commenting believe that all distinctions between US and foreign service areas should be voided for all participants, thereby making future satellite designs a matter of technology and business opportunities rather than to suit regulations adopted in the 1970s.

Arianespace successfully launched DirecTv DBS-3 satellite on June 9th. New satellite will act as in-orbit spare to US DSS service and provide additional capacity to system

DIGITAL TV and RADIO

Sony's entry into the US direct TV Ku band .5 metre TV marketplace with hardware may have come (June) at a time when the market is turning soft. Analysts point out that retail sales of home dish systems has slackened since February and with RCA Thomson in the marketplace for one year in advance and virtually no pricing differential between the two competitive receiver systems, Sony may have a difficult time making much of an impression. Retail selling prices for complete DSS systems remain in the US$699-$899 advertised price range although one distributor in Miami offered the Thomson systems on special discounts at US$628 during May. The retailers who make the final sale to the customers are working on a 30% margin with this product.

US is entering final testing phase for HDTV (high definition TV) aiming at year end report and then recommendation of standard from industry to FCC which sets regulations. The most contentious question unresolved is the transmission format. The Zenith VSB system, selecting over several other contenders, still must prove itself against the European import called COFDM. The Europeans claim that by using COFDM the bit error rate (percentage of the picture destroyed in transmission) is greatly reduced in hilly and mountanous, or city skyscraper, situations. Tests that were to begin in Canada today (30 June) will attempt to determine just how much better COFDM is than VSB and to quantify the relative strengths of the two systems. US broadcast networks are concerned that unless COFDM is given a proper opportunity of comparison, that in switching from analogue to digital they may be trading one problem for a new problem. Cable operators in the US are basically against COFDM since it will require additional circuitry in their cable set-top decoder boxes with no direct benefits to them. And, there is another element to the cable concern. As one cable engineer related, "*COFDM makes bad pictures good in situations where terrain or interference exists. That is basically what cable does. So why should we be in favour of a system that effectively makes our service less desireable?*"

CONSUMER ELECTRONICS

Japanese company financials are claimed to be an improvement over year ago but most continue to reflect significant losses. The biggest financial problem continues to be the strenghtening of the Yen currency against Japan's major export customer currencies such as the US dollar. Sony reported a massive US$3.3 billion net loss for the year end March 31 but $2.7 billion is a 'write-off' of their original valuation they placed on the purchase in 1989 of Columbia Pictures. In the consumer area, Sony video equipment sales were up 3.4%, colour TV sales up 19.7% and overall electronics rose 8.9%. Game maker Nintendo reported a year end financial decline that was 8.4% behind the 1993 figure; still a healthy US$484.4 million net profit for the year. JVC reported 1.7% increase in sales and a profit increase of US$11.2 million over 1993. Pioneer reported flat sales from 1993 but profits dipped 63.1% as a result of the weakening Yen. Sharp had a record net sales up 6.6% from 1993 and a record net profit of US$500 million, up 40% from 1993. Sharp is the largest supplier of LCD panels and this product line represented 32% of the company's US$3.4 billion in sales. Toshiba also reported gains: Pretax income up 34%. Hitachi has a 24% rise in pretax income on an overall sales rise of 3%.

DVD (digital video disc) formats, each battling to become the world standard, are talking about a merging of their respective technologies (CTD 9502; p.20). Both groups, Toshiba-Time Warner and Sony+ Philips, seem concerned that unless a single format is reached before mass production begins, there will be an unsettled several years when consumers will be faced with two competitive, non-compatible systems. This will cause film producers to select one or the other format for their releases, badly split the retail sales dollars and probably keep consumers from buying until the 'standards war' is settled. Thus both sides now realise the importance of settling on a single standard, quickly, so that the hardware and video disc software might make it to consumer stores by the last half of 1996. Europeans had their first look at the Toshiba-Time Warner DVD format system early in June with demonstrations of the system operating in a PAL format environment during a six day trade show held in Paris.

Sharp believes that 50% of all camcorders manufactured in 1997 will have LCD monitors built in. The firm's ViewCam LCD monitor camcorders took 7.8% of the total market in 1994, significantly up for their 4.5% share in 1993. They forecast a further rise to 15% this year, 22% in 1996.

Pressure to force retailers of video games in the United States to set a deadline after which they would refuse to sell any games which have not adopted the voluntary "Games Rating Code." In lieu of legislation proposed in 1993, which would have required games (like movies) to be "rated" by a review board, most of the industry has agreed to voluntarily submit their games to an industry appointed board. Now the US government is asking retailers to put pressure on those game producers who have not complied with the voluntary programme. Games with violence or explicit sex are the major concern.

Laserdisc players are being made outside of Japan for the first time. Pioneer is now shipping up to 15,000 players per month from a new facility in Malaysia.

Macrovision has filed patent applications in Europe that amend its present anticopy process which is widely used with rental tapes. Macrovision plans to add a chequerboard pattern to image when anyone attempts to make a copy of a tape which has been "copy guarded" in addition to present system of violating the sync (picture stability) portions of the copied tape.

35mm big screen quality TV images are claimed by new Vidikron Faroudja line quadrupling projection systems. They call the system "Virtual HDTV" and in the PAL format projector the standard 625 lines becomes a 2,500 line image with screen sizes as large as 25 diagonal feet offered. The PAL format line quadrupler has a cost of US$23,500 and a suitable compatible projector (US$20,000 to $23,000) unit is required. Not for every living room but then neither are 25 foot diagonal screens.

CABLE / FIBRE / MDS PAY TV

Telecom New Zealand's scheduled decision of a network coordinator for the overseeing of their fibre optic broadband network system in New Zealand was postponed twice during June following an initial June 10 expectation date. The latest release date is 30 June. The network coordinator will oversee the construction of the system which is anticipated to cover no more than 10% of potential New Zealand homes and businesses within the first five years. Two firms are in the final cut, Ericsson and Philips with Ericsson given the nod by many observers. Telecom of course is not indicating which firm may get the award. When Telecom makes its announcement, it is expected to roll out the public relations carpet and claim they are committing to a major expenditure in the $500 million region for the installation of fibre optic lines. However, when divided into a five year span at $100 million per year, the number is not sigificantly larger than their normal roll out of replacement and additional copper wire per year. In a related report, Telecom's pilot test system in Pakuranga and New Lynn (CTD: 9309, p. 2) has added three new channels to its network; all are 'low budget' services relying on graphics text generators or automated tape playback equipment. One of these services is being managed by the news department of TVNZ. Significantly, of 25 different satellite delivered designed-for-cable-TV services planned for use or actually being used by other Kiwi cable operators, not one of the programmers reports any contact with Telecom for rights to use their programming. This says that Telecom is not in the marketplace actively attempting to tie-up or gain use rights for 'normal' cable TV programming, but rather it is attempting to fill the dial with low cost programming which is being created by firms within New Zealand. How a Telecom cable TV service programmed by automated machines as opposed to live sports, movies and family entertainment will hold up in the competitive marketplace remains to be measured.

Telecom's loss at the Auckland High Court in a case involving payment of rates for space occupied by lines and equipment (CTD: 9505, p.18) will go back to court. The court had ruled that Telecom is required to pay rates for space used by lines, equipment boxes and telephone booths. Telecom wants the court to now adjudicate the actual level of rates to be paid. Because of the high level of activity at the court, a second court date is not expected before early 1996. Telecom does not expect a final resolution of the matter before late in 1996. The Auckland City Council had assessed fees of $940,698 against utilities for the 1991-1994 period.

Bell Atlantic drove final nail into its announcement that it will abandon obtaining FCC permission to build hybrid fibre and coaxial cable networks in US by telling Commission, "*Since these applications were filed, significant advances in technology have occurred in the availability and pricing of new technologies.*" Bell Atlantic has decided that the type of hybrid network it has invested in for the New Lynn and Pakuranga suburbs in Auckland is "*old fashioned*" and will not help it reach a truly profitably broadband service network goal. In the US, Bell Atlantic will use MDS as an interim technology to align itself with consumers in the image of a video entertainment provider (see CTD 9505, p.20). BA believes that the next wave of equipment which will allow it to take fibre virtually to the kerb of the consumers home will begin arriving late in 1996 or early in 1997. It is called SDV (switched digital video) and relies more on telephone technology than on the cable TV technology which is borrowed in a hybrid fibre plus coaxial system. The decision of the "home office" to abandon hybrid technology in the US is likely to also have an impact on the rollout of a similar system in New Zealand; i.e., if the hybrid network technology is being bypassed in the US by BA, why would it apply any more here than there? That Telecom New Zealand will shortly be in a position to itself roll out MDS as a tool to reach customers in major markets with entertainment television (see CTD 9502, p.2) is also an important ingredient in the future of broadband technology here. And if, in fact, Telecom New Zealand does follow the lead of its Bell Atlantic parent and bypass the hybrid technology now employed in the Auckland suburban tests, that also means that the arrival in New Zealand of a broadband SDV technology based network will be unlikely before the start of 1998. Before cancelling its FCC applications, Bell Atlantic was committed to a VDT "trial" in Dover Township, NJ which has been under construction for two years. These tests are due to launch sometime in the next 90 days.

US West, a regional Bell system like Bell Atlantic, has followed the BA lead and is now asking the FCC to "*withhold approval of its pending VDT* (hybrid fibre plus coaxial cable) *applications*" until it has had an opportunity to evaluate the results from a test system installed in Omaha, Nebraska. The telephone company says it believes there may be some economic wisdom to investigating alternative methods of delivery of entertainment programming to residents in its largely midwestern and western US core telephone cities and included MDS and DBS in its list of options. The company's chief executive told the FCC, "*It is possible that in some areas the best long term solutions could be wireless*" (read: satellite or MDS).

Nelson area would-be cable operator Cyberstar, owned by American cable TV interests, claims it will begin construction of a $14 million distribution system "*by the end of this year.*" The company claims it is now designing the network which will feature fibre optic trunking to subscriber nodes and coaxial cable from the node sites to individual homes. The size of the nodes has not been specified but the current practice in the USA is to limit nodes to no more than 500 homes. Cyberstar has said that it plans to provide between 18 and 25 channels on its service. The firm received network operator status in May.

Bay of Plenty Electricity (BOPE) Howick suburban cable TV system being built in partnership with Sky Network (CTD: 9504, p. 21) is winding down to a first stage completion. Three equipment cabinets housing the "headend" electronics, purchased from a supplier in Spain, are now being outfitted with hardware. The system planning and implementation under Sky direction has gone well enough that additional BOPE sites are being considered for similar "suburban neighbourhood" installations. Sky may or may not be a partner in the expansions.

Australia's Bureau of Transport and Communications Economics has released a study that purports to prove that hybrid fibre coaxial cable netwporks are only economical in cities and then only where the population densities are high. The study appears to substantiate Telstra (Australia) claims that it must roll out the hybrid network to be competitive with the roll out of digital format coaxial networks underway by competitor Optus. Both Telstra and Optus are headed for what may become the world's first truly competitive broadband network market if both companies complete their announced construction plans.

Australian stock brokers continue to recommend purchasing of shares in Australis (Galaxy) although it is generally expected the firm's first report to share holders of progress to date (due at any time) will reflect slower growth than originally projected. Australis had originally anticipated 65,000 subscribers to Galaxy by the period ending 30 June. The next benchmark for the company is 290,000 subscribers by June 30, 1996 according to the original prospectus. Breakeven for the firm was originally tagged at 400,000 subscribers. Stockbroker Burrows Limited reported their belief that Australis has an end of May fully diluted stock share value of A$1.45 although the stock had been trading close to the A$.75 mark at that time. US cable giant TCI owns 28% of Australis. The expansion of Galaxy MDS relayed service continues; urban areas surrounding major centres (Sydney, Perth) are scheduled for activation by early in September.

Cable TV set-top decoder boxes, already in deep trouble as prime suppliers such as Scientific Atlanta have missed expected delivery dates, were thrown further back with the announcement by General Instrument that their agreement to work with Microsoft Corporation has fallen through. GI and the giant Microsoft firm had originally agreed to co-operate in the design of a set-top box that would allow cable TV, MDS and satellite TV subscriberrs to use their remote controls to order specific services, and interact with programming and advertisements. GI has now decided to back away from the Microsoft operating system for its set-top boxes. GI had originally planned to use the Intel 486 chip in its system and Intel works closely with Microsoft. Now, GI says they will use the IBM / Motorola 'PowerPC" chip and this means they require an operating software which is compatible with that chip. The Microsoft system is not. In announcing the breakup, GI told analysts *"The PowerPC is better suited for the manipulations performed in a set-top box than Intel's platform."*

Time Warner, controlling 12.75% of stock in Sky Network, has sold off US$1.3 billion in cable TV assets since January and plans an additional selldown of what company calls "noncore assets." TW is looking to raise as much as US$3 billion by divesting itself of assets it holds in cable systems and other properties which do not fit its "clustering strategy" (which works when multiple properties are owned in same geographic region). There continues to be speculation that TW might sell its holding in Sky Network to Bell Atlantic (parent of Telecom New Zealand) thereby tipping the balance of control for Sky to the telephone company.

Consolidation of UK cable TV industry, involving familiar players, continues. TCI and telephone company US West now own 26.75% each of British firms SBC Communications and Cox in US$1.1 billion deal. New firm is called New TeleWest and in addition to TCI and US West, is owned 10% each by SBC and Cox and 26.5% by public shareholders. New company will have 353,500 cable subscribers, 313,000 residental telephone subscribers. This makes New TeleWest largest single cable operator in UK. On a per subscriber basis, the new combine paid US$4,500 per subscriber for the new holdings.

RCA has introduced two new "commercial free VCR" models to its product line. The home recorders are equipped with chips that sense the broadcast station switch to a commercial segment and stop recording the material. On playback the recorder sense the pre-recorded breaks and automatically zips through up to 3 minutes of commercials in approximately ten seconds time while the on-screen view is converted to a blue background and the audio track goes silent. The premium feature will cost US consumers an extra (US)$50 for machines so equipped.

Compaq computers are now being shipped with MPEG (digital TV processing) chip included; previously it commanded a US$200 premium. Company esxpects to ship 500,000 computers with this chip by end of the year.

TERRESTRIAL BROADCASTING

Maori radio networking utilising Optus satellite relay continues to be a debated issue within the Maori radio community. An original plan offered by Optus (New Zealand) has now been shelved in favour of a tendering process that would allow an expression of interest by others. The time between the announcement of the tender proposal (June 8) and deadline for submission of material (June 12) , was, however, very short. Funds for the creation of a multiple audio channel satellite distribution system to tie approximately 26 Maori radio stations together in lieu opf the present terrestrial network rented from Telecom will come from the NZ On Air. Contacts are Te Mangai Paho at 04-473-7785.

Independent Broadcasting Company's 6 format radio service is scheduled to go to Optus relay 1 July using a system that will reduce the equipment required and operating costs for non-metropolitan radio stations. As many as 51 radio stations using rock (Hauraki), country (FM country), 1960s music (Kool), easy listening (i98), adult contemporarty (The Breeze) and nostalgia (Today) will be connected to the service.

A new 10 watt UHF translator paid for by private contributions is extending The (TAB) Racing Channel to a region of Central Taranaki using a temporary transmission site located at Dawson Falls Lodge on Mt. Egmont. Business people in Stratford and Eltham raised the bulk of the funding required. Service to the translator comes off of Wharite Peak. The area had been promised service from Trackside as a part of the general expansion of the Sky Network into the Taranaki / New Plymouth region but tired of waiting for Sky to install their promised equipment.

Nelson viewers will have a second 'Mainland TV' channel to watch from 1 July. The new service is using channel 29 from Takaka Hill, site of their present channel 61 service. Programming for channel 29 under the banner of 'Network' will be 24 hours per day and will include satellite service from an undisclosed (Country Music Television suspected) service.

A "Project Paper' said to have been submitted by TVNZ is making the rounds of Ministry of Commerce offices. The paper calls for reserving space in the band IV / V UHF (television) frequency range to allow the eventual transition of all New Zealand band I (45-68 MHz) TV transmitters to UHF and to plan a switch from analogue to compressed digital TV services. There has been widespread discontent within the New Zealand TV industry (both broadcasting and reception sides) with the continued use of band I frequencies, for more than two decades. Most other developed nations have abandoned band I for a variety of reception related problems unique to band I, and Australia is moving towards a similar policy by shifting existing ABC (and other) band I transmitters to band III or UHF. The primary motivation for moving out of band I in New Zealand is the severe limitation placed upon error free digital reception in the presence of multi-path (ghosting) effects. While most digital TV software platforms include ghost cancellation techniques, there is serious concern that the terrain in New Zealand which is irreegular and causes ghosting will be a deterrent to effective band I digital use. TVNZ, which occupies band I for virtually all of its major site TV1 network transmitters, could be a significant loser if digital was implemented on band I. Thus the rationale to suggest that band I be abandoned for (the next generation of) digital TV, and that as digital replaces analogue in New Zealand a companion all-digital service be created within a segment of the UHF range for transition of the band I services. Under the plan, TVNZ (and TV3) using band I would continue to use band I analogue for a period of time (twelve years is mentioned) while newer digital receivers would automatically seek out their local digital transmitters within the UHF range. In time, as TV receivers are replaced, the analogue band I transmitters would be shut down. In the US, the transition period has been set at 12 years while in the UK ten years is being suggested. See CTD 9308, p. 2).

Fiji's TVNZ managed project to bring one free to air and one pay television service to the country is experiencing some technical difficulties. The pay TV decoder boxes, requiring the ability to be individually addressed, were at one point to come out of a major Asian cable TV system where the decoders were being replaced with an updated version. However, the box supplier is now unable to do this and plans to launch the services in Fiji may be impacted. TVNZ has appointed senior executive Peter Wilson to be the twin-stations new chief executive.

Sky Network pressa-agentry continues to allude to a "*major expansion in 1996*" to extend its coverage beyond the present 820,000 homes they claim they presently reach. Chief executive Nate Smith was quoted recently as stating, "*Our goal is to reach nearly all of the homes in New Zealand in the next 18 months.*" Sky was expected to reach the 200,000 subscriber mark at about the time you read these words and will at that point claim that 24.3% of all reached New Zealand homes are subscribers to the 4.5 channel system. As CTD reported in September (CTD 9409, p.2), the next major expansion for Sky is most likely to include a satellite link to allow them to feed their services both to the remaining non served population centres (such as Whangarei, New Plymouth) and to the remotely located homes via a DTH (direct to home, satellite) model. One possible scenario being considered: Sky would, through a teaming with Australis Galaxy, jointly attempt to serve the remaining New Zealand regions via an Optus satellite feed on Ku-band using Galaxy's all digital NTL / Irdeto hardware and software.

When all US analogue TV broadcasting is transferred to digital, there will be tens of megahertz of spectrum left unused by the conversion. The US government is already rubbing its hands together counting (or forecasting) the amount of money it will bring in as a result of selling off these previously used analogue frequencies. The estimates, prepared by bureaucrats who differ little from our own, are rather vague: From US$11 to US$132 billion is the range reported. That is probably close enough an estimate for government work: a 12 to 1 window. US government estimates are that for the conversion from present analogue system to digital, consumers will spend US$100 billion for new receiving equipment. One FCC spokesman is calling for a hurry-up of the conversion process and is suggesting 2005 as a final conversion date.

Microsoft Network and major US broadcast network NBC are in a joint venture 5 year programme to bring the aging TV and radio network into the digital age. NBC has been creating cable networks and investing in international programming distribution and creation ventures (ANBC Asia is one such) but believes it must go further into the interactive world of all digital communications if it is to survive against 21st century competition. The agreement with Microsoft seems more generic than specific at this point; NBC will catalogue its own resources and Microsoft will offer suggestions on how the present network assets could better be deployed in an interactive TV world.

Rupert Murdoch's Fox TV Network in US says it is "*deadly serious about offering free political time to candidates for political office during 1996 elections.*" Murdoch's own stations are already circulating the guidelines for the new policy which has drawn cries of disbelief from the other major US networks. The US political process adds around US$500 million to the coffers of broadcasters every four years; income which Murdoch believes they should not be entitled to receive as users of the public airwaves.